

## NOTES ON THE GENUS BUPRESTIS WITH DESCRIPTION OF ONE NEW SPECIES. (COLEOPTERA, BUPRESTIDAE.)

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Casey "Studies in the American Buprestidae"<sup>1</sup> and Nicolay and Weiss "A Review of the Genus Buprestis in North America"<sup>2</sup> give keys for the identification of the adults of the species of this genus which are not altogether reliable. Casey, starting at page 89 and following through to page 105 and page 108, gives *rufipes* Fab. and *gibbsi* Lec. as having males with the anterior tibiae unmodified. As a matter of fact the males of both species have a strong reflexed subapical internal tibial spine. Nicolay and Weiss on pages 81 and 82 give *fasciata* Fab. and *langi* Mann. as having males with the anterior tibiae armed with a reflexed tooth at the apex. All of the males of *langi* examined by the writer have the tibiae unarmed. As *langi* is considered to be a variety of *fasciata* the supposition is that the tibiae of the males of *fasciata* also are unarmed.

On June 13, 1923, near Stirling City, Calif., the writer and Mr. R. D. Hartman took a number of larvae, pupae and recently transformed adults of *langi* from the outer heartwood of an old weather beaten log of douglas fir (*Pseudotsuga taxifolia*). This confirms the observation made on the host of this species by E. C. Van Dyke. Typical six spotted males were taken along with the green females. The habit of pupating and transforming in the spring indicates that *langi* belongs to the true *Buprestis* where it is placed in the keys by most authors. The absence of the tibial spines on the males would separate it from that group, however. The larva, too, is not typical *Buprestis*. It closely resembles the larva of *aurulenta* Linn. which belongs to Casey's subgenus *Cypriacis*.

Casey<sup>1</sup> (pp. 89-111) places *connexa* Horn in the group having males with anterior tibiae unarmed while Nicolay & Weiss<sup>2</sup> (pp. 81, 82) place it in the group having males with the anterior tibiae armed with a reflexed tooth at the apex. Neither specifically mention having studied any males. The writer has studied the majority of the specimens collected to date and all are females. The two specimens before Horn when he described the species also are noted as being females. Has any one a male of this species?

**Buprestis fremontiae**, new species.

*Adult Holotype, Female.*—Medium sized, length 16 mm., width 6 mm., elongate oval, widest about distal third of elytra; head and thorax brownish bronze, elytra fulvous, each elytron marked near the outer margin about the middle with a

<sup>1</sup>Proc. Wash. Acad. Sci., v. XI, Apr. 28, 1909.

<sup>2</sup>Jour. N. Y. Ent. Soc., v. XXVI, June, 1918.

medium sized subtrapezoidal purple spot, margins of tips rufous; body beneath brownish or purplish bronze, clothed with medium white hair, moderately, evenly punctate.

Head marked by a short frontal ridge, numerous punctures and calli; labrum yellowish; eyes elongate oval, brownish with yellow flecks; antennae bronzy, reaching to middle of thorax, first joint long and clavate, 2d short and clavate, 3-11 joints flattened and triangular.

Prothorax, length  $3\frac{1}{2}$  mm., width 5 mm., widest about middle, marked by a broad, shallow median groove, numerous punctures and calli, a small yellowish spot on each side in the anterior margin near the outer angle; sides arcuate; anterior margin sinuate, smooth; posterior margin sinuate, rather obscure; prosternum convex, moderately obtuse, smooth posteriorly, punctate anteriorly, clothed with white hairs; scutellum distinct, coppery.

Elytra slightly wider and three and one-half times as long as the prothorax; humeri moderately prominent; sides slightly diverging for two-thirds of length, then gradually narrowed; apex of each elytron bidentate; surface puncto-striate, without hairs.

Abdomen with first ventral flattened and shallowly concave; last ventral with posterior margin sinuate. Front tibiae slightly arcuate, others straight.

*Allotype, Immature Male.*—Length 18 mm., width 8 mm., elytra with purple spots similar to female. Fore tibiae slightly arcuate, each with a single reflexed moderately long spine, more like *rufipes* than *gibbsi* and *viridisuturalis*.

*Larva.*—Thorax moderately broad, flattened, sub trapezoidal, three segmented; abdomen of medium width, flattened, ten segmented; texture rough, dull; whitish; pubescence sparse.

Head, mostly retracted into prothorax, medium sub-orbicular, not strongly chitinized, mouthparts darker; front well developed, darker anteriorly, pits large, shallow, each bearing a pair of large bristles, anterior frontal margin sinuate, anterior epistomal margin arcuate, lateral excavations of epistoma broad, with a prominent tooth near inner angle; clypeus amber, quadrangular, apparently twice as wide as long; labrum amber, subquadrangular, about twice as wide as long, anterior margin sinuate, bearing a dense row of light colored bristles; antennae in deep fossae, apparently three jointed, basal joint large, sub-conical, 2d nearly as long, sub-cylindrical, outer distal margin fringed with bristles, 3d very small, telescoped into tip of 2d, bearing a long, lateral sub-distal light bristle; mandibles broad, well developed, piceous, three toothed, with bases well developed, piceous, sub-quadrangle and rugose; genae sub-quadrangle, darker anteriorly; gula broad, dark brown; mentum and submentum fused, trapezoidal, light; labium sub-quadrangle, rounded anteriorly, fleshy, rugose, anterior margin emarginate and fringed with light bristles; maxillae prominent, cardines large, fleshy, irregular, much broader at base, stipes slightly clavate, shorter than cardo, darker, palpus about same length as stipes, two jointed, 1st sub-cylindrical, bearing a long light sub-distal bristle, 2d much smaller, short, sub-cylindrical, lacinia about same length as first joint of palpus, flattened, slightly declivent, inner margin setose.

Prothorax medium, sub-pentagonal; plates well developed, dull; dorsal marked by an inverted U of smooth dark-brown median grooves with base broadest, base and  $\frac{2}{3}$  of arms of U surrounded by a reticulated rugose narrow, hood-like

area, angulated at sides, rugosities pointlike, tending to lie in rows on the ridges of the reticulations, few scattered rugosities at anterior margins of dull area within arms of U; ventral plate marked by a median groove which extends from the base for  $\frac{3}{4}$  of the distance to the anterior margin, groove widest near middle, fusiform, surrounded at apex by a broad reticulated rugose area which narrows toward base where it widens again, the whole forming a vase-like marking.

Mesothorax distinctly narrower than prothorax, short, divided into two ventrally by a deep transverse groove, large crescentic spiracle on each side in the anterior portion.

Metathorax slightly narrower than the mesothorax, about twice as long.

First abdominal segment thoracic in appearance, considerably narrower than metathorax, about same length, widest anteriorly, bearing a large fleshy median lobe dorsally and a large and two small ones ventrally, without distinct lateral folds, medium sized spiracle on each side near anterior margin; segments 2-8 flattened, longer and slightly wider than first, with distinct dorso- and ventro-lateral folds, spiracles on each side dorsad of dorso-lateral fold; 9th slightly shorter and distinctly narrower than preceding, widest anteriorly, with lateral folds, without spiracles; 10th small, conical, divided posteriorly into two fleshy lobes.

*Habitat.*—Middle to southern California. Described from one female (Hopk. U. S. No. 16638a), an immature male (No. 16638a), fragments of beetles and a number of larvae (No. 16638a) collected from the wood of fremontia (*Fremontodendron californicum* (Torr.)). The larvae were collected first about six miles west of Northfork, Madera County, by H. E. Burke and R. D. Hartman in May, 1921. The type female was reared from a prepupal larva collected at Northfork in February, 1922, by Hartman. The dead immature male and various sized larvae were taken at the same time. Larvae and fragments of beetles were taken by Burke and Hartman in the Swartout Valley, San Bernardino County, in September, 1923. The larva from which the female was reared pupated May 29 and transformed to the beetle on June 26, 1922, becoming fully colored about July 17th. The larvae mine the sapwood and heartwood of dead stubs on live trees. They may attack the imported *Sterculias* which are much used as shade trees in southern California, *Fremontodendron* being a near relative of *Sterculia*.

*Holotype, Allotype and Type Larvae.*—Cat. No. 26885, U. S. Nat. Mus.

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